Remarks

Claim 21 has been amended to delete the word code so that the processor and memory are not part of the code. Claim 5 has been amended to correct "conversation" to conversion". Reference numerals that inadvertently were in the previous response (but not originally) have been removed.

Regarding the rejection of the claims for obviousness over Fisher and Rocci, this rejection is respectfully traversed. In the last response, the applicant pointed out that Fisher shows that the traditional regular window for new outstations to join in causes a waste of bandwidth and added delays. Thus Fisher is concerned with similar issues to those of the present claims. However Fisher chooses a different approach involving transmitting a sequence from a new outstation at a low level, below the usual noise threshold and use correlation at the base station to detect the sequence and its phase.

The Examiner acknowledges that Fisher does not show the features of the present claims of:

a) "the downstream commands comprising a global command allowing none of the outstations to transmit to the head end for a pre-set period," and

b) "the global command being followed within the pre-set period by a further command to a selected outstation of the plurality of outstations overriding said global command allowing the selected outstation to transmit upstream to the head end,"

These are significant for a number of reasons. Feature a), a global command to cause a window, can be more efficient in terms of bandwidth than a regular window since the head end can decide when to open the window to allow new stations to join in, and need not waste the bandwidth used by the window when the system is too busy for example. The global command can also be used for other reasons, such as giving one outstation priority over others, to achieve different levels of service for example.

The combination of a) and b), the command to a selected outstation, can enable avoidance of conflict if several stations are trying to signal or if new stations are

trying to join. The head end can now save bandwidth wasted by such conflicts, since it can temporarily control which outstation sends information. It can also enable some outstations to send more urgently or achieve a higher burst rate, and so achieve better or more varied quality of service levels.

Fisher proposes a completely different solution to the bandwidth wastage of the traditional window.

The Examiner asserts that Rocci shows features a) and b). Rocci does show a global ALL QUIET command to cause all transmissions from outstations to cease, and a command to allow a selected outstation to transmit upstream to the head end. But there seems to be no disclosure of this window being a pre-set length. The Examiner cites col 9 lines 49-64 which read as follows:

"The receipt of an alarm message interrupts normal polling on the polling channel. From T30 to T36 a direct verify sequence is transmitted. The direct verify sequence consists of 5 IRG's followed by an ALL QUIET command, then 5 IRG's, followed by a DIRECT VERIFY command, followed by a word 2, a word 1 and word 0 defining the address of the alarming subscriber unit. The alarming subscriber unit then responds to the direct verify sequence during time interval T37 through T42. The response to the direct verify sequence is transmitted on the polling return channel. The direct verify response consists of 5 IRG's followed by a word 2, word 1 and word 0 defining the address of the alarming subscriber unit followed by the alarm code and a checksum."

Col 10 lines 6-8 of Rocci sets out how the ALL QUIET is ended: "The alarm verified sequence is followed by 5 IRG's and an ALL SPEAK AGAIN command, which readies the system to process the next alarm."

This confirms there is no pre-set period for the ALL QUIET command. Thus it always requires another global command to end the ALL QUIET command. This has a number of disadvantages. Firstly all outstations must continue to listen for the command, rather than knowing how long they will be quiet, so that they can work on other tasks or allocate sufficient buffers for information to be transmitted. This wastes processor time and power in the outstations. Secondly, it leaves a risk that one or

more outstations will miss the command for some reason and will wrongly remain quiet, causing loss of service to the user.

Hence to reach the invention claimed, it would be necessary to:

i) find Fisher and yet decide not to adopt its solution,

ii) look for another solution, find Rocci, and select its global commands, and

iii) alter the global commands of Rocci, to use a preset period.

There is no incentive for a skilled person to take any of these steps. Regarding i), there is no suggestion in Fisher to lead towards any other approach. It represents a complete and self contained solution, as summarized in the last response. Regarding ii) Rocci relates to alarm systems which use spare channels of a cable TV system, and is concerned with "the capability to search for and verify the subscriber unit or units that have originated the garbled message or messages." (col 1 lines 45 to 47). This is a different and unrelated issue to the problem of wasting bandwidth when using a regular quiet window to allow new units to join, as shown by Fisher. Hence there is no incentive to find Rocci or to select the global commands from it, to apply to Fisher, since Rocci is concerned with solving different problems, and is concerned with a completely different type of system, an alarm system "overlaid" on a cable TV system and therefore not communicating with the outstations of the cable TV system at all. Regarding iii), there is no incentive for this step since there is no suggestion in Rocci of the advantages of a pre-set period. Since Rocci relates to an alarm system, if the advantage of less risk of loss of service were obvious, it surely would have been seen and used by the author of Rocci. Since it was not apparent to the author of Rocci, this effectively confirms this step cannot be obvious. Even if any one of these steps were considered obvious, the combination is not.

For these reasons, the claims are not obvious over the cited documents taken alone or in combination.

Other points.

All the other claims have the same features or features corresponding to features a) and b) and so are allowable for the same reasons.

Regarding items 1 and 2, as this is a provisional rejection, it is proposed to address it later according to which claims are otherwise allowable.

Regarding items 3 and 4, appropriate amendments have been made to claim 21. Regarding claim 10, the Examiner has added explanation that he considers the term "non return would suggest that a return signal from an outstation could be rejected (as in a one-way filter). Yet in the discussion on page 9 of the office action, relating to claim 10, the Examiner acknowledges that non return couplers are "well known in the art and readily available" and used "in order to prevent downstream signals from counter propagating and interfering with upstream signals". It is respectfully submitted that this effectively shows that a skilled person would not find the term unclear and would not assume that the term could mean a "one way filter" in this context. The specification indicates that "A non-return coupler combines upstream optical transmissions from the outstations on to the optical fibre path 14 to the head end 11 whilst preventing observation of a given upstream transmission of a respective given outstation from any other outstations." No better term or expression is apparent to the applicant, but if the Examiner has any suggestion in mind, then an amendment would of course be considered.

All the points raised by the Examiner have now been met and favorable reconsideration is requested.

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Respectfully submitted,

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